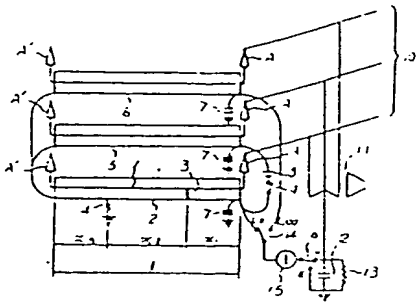
(54) LOCATING METHOD OF INSULATING FAILURE POINT OF CABLE UNDER LIVE STATE
(11) 60-169771 (A) (43) 3.9.1985 (19) JP
(21) Appl. No. 59-24780 (22) 13.2.1984
(71) SUMITOMO DENKI KOGYO K.K. (72) TADAHARU NAKAYAMA
(51) Int. Cl. G01R31/08,H02H7/26

PURPOSE: To make it possible to simply and stably measure the positions of insulating failure points in the main cable and anti-corrosion layer of a high voltage power cable during power transmission with a reduced error by using a displacement method.

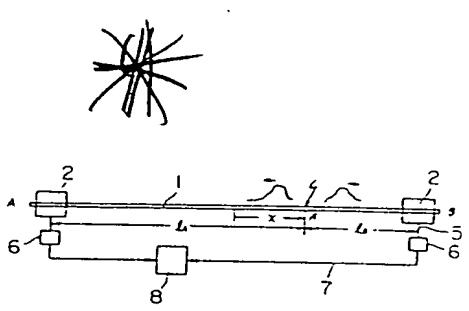
CONSTITUTION: One terminal, which is connected to a change-over switch 14, of a minute current detection means 15 is not earthed and the other terminal of said minute current detection means 15 is connected to a change-over switch 16. This switch 16 selectively connects the primary side neutral point N of an earthing transformer 11 or the earth E by the changing-over thereof. In performing location work, the primary side neutral point N of the earthing transformer 11 is brought to an earth state through a storage battery 12. In this state, the change-over switch 16 is changed over the side of the primary side neutral point N and the change-over switch 14 is changed over to the side of L_0. Next, a switch 9 is closed and a measuring current in flowed to a loop circuit consisting of the shield 2 of an insulating failure cable and the shield 5 of a normal return cable from a measuring power source 8 to obtain the swing of the minute current detection means 15.



(54) APPARATUS FOR LOCATING FAILURE POINT OF POWER-TRANSMISSION LINE
(11) 60-169775 (A) (43) 3.9.1985 (19) JP
(21) Appl. No. 59-26275 (22) 11.2.1984
(71) SUMITOMO DENKI KOGYO K.K. (72) KUNIO KOSHIRO(1)
(51) Int. Cl. G01R31/08

PURPOSE: To make it possible to realize the enhancement of noise resistance and the protection of a signal processing apparatus from surge, by simplifying the signal processing apparatus by dispensing with a synchronous circuit and using an optical fiber in signal transmission.

CONSTITUTION: The surge wave generated from the failure point F at a distance l_A from a terminal A and at a distance l_B from a terminal B is propagated to both directions and propagated through an optical fiber while connected to a light signal by a sensor 2 and a photoelectric converter 6. On the basis of the signal propagation delay times in the optical fibers in the A-terminal side and the B-terminal side and time when the surge wave is generated, times of surge wave form signals from both terminals reaching a signal processing apparatus 8 are signal propagation delay times in the photoelectric converter 6 and the signal processing apparatus 3 and take the same value at both terminals. In this case, the center between terminals A, B is set to zero and the A-terminal side from the center to positive while the B-terminal side to negative and, when arrival time difference of surge wave form signals from both terminals is measured, the failure point F can be calculated.



(54) ULTRA-LOW FREQUENCY HIGH VOLTAGE GENERATION APPARATUS
(11) 60-169776 (A) (43) 3.9.1985 (19) JP
(21) Appl. No. 59-25595 (22) 13.2.1984
(71) SHOWA DENSEN DENRAN K.K. (72) OSAMU TANDA
(51) Int. Cl. G01R31/12,H02M9/00

PURPOSE: To make it possible to form a stable wave form and to enable the miniaturization and service life prolongation of the titled apparatus, by changing over the series and parallel connection states of a condenser group so that voltage from a low voltage low frequency generator with small capacity is used in changing the condenser group to be discharged as high voltage.

CONSTITUTION: When switches S_{c1}~S_{c3}, S'_{c1}~S'_{c3} are closed at first, condensers C_1~C_3 are entirely brought to a parallelly connected state and comes to a state separated from a cable 21 to be tested because a switch S_0 is opened. Then, the condensers C_1~C_3 are respectively charged from a low voltage low frequency generator 20. In this case, a charging time way be short because the condenser group is parallel. Next, when the switches S_{c1}~S_{c3}, S'_{c1}~S'_{c3} are opened and switches S_0~S_3 are closed, the condenser group C_1~C_3 is connected in series and connected to the cable 21 to be tested by the switch S_0 to form a closed circuit. At this time, [illegible] to make the voltage of the condensers C_1 and C_2~C_3 equal to that of the cable 21 and synthetic voltage of the condensers C_1~C_3 is applied to the cable 21.